Claims

1. A method of classifying an individual comprising analyzing the nucleic acid of a sample taken from said individual for nucleotide polymorphisms in the gene encoding FKBP51 or in a haplotype block comprising the gene encoding FKBP51 and/or determining the expression level of FKBP51 in said sample.

2. The method of claim 1, wherein said individual is a patient suffering from depression and said classifying consists of or comprises predicting the response to therapy.

3. The method of claim 1, wherein said classifying consists of or comprises selecting said individual for a clinical trial.

4. The method of claim 1 or 2, wherein said individual is a patient suffering from depression and said classifying consists of or comprises predicting the predisposition for an elevated number of episodes of depression.

5. The method of claim 3, further comprising the steps:
   (a) identifying a compound modulating the activity of FKBP51; and optionally
   (b) optimizing the pharmacological properties of the compound identified in (a); and
   (c) performing said clinical trials;
   wherein said clinical trials are clinical trials of the compound identified in (a) or optimized in (b).

6. The method according to claim 5, wherein the compound modulating the activity of FKBP51 is an activator of FKBP51.

7. The method according to claim 5 or 6, wherein the compound modulating the activity of FKBP51 increases the expression of FKBP51.

8. The method of any one of claims 1 to 7, wherein the nucleic acid is gDNA.

9. The method of any one of claims 1 to 8, wherein the haplotype block comprises at least one SNP selected from the group consisting of rs2766534, rs4711429, rs4713921, rs9462104, rs9394312, rs4713916, rs943297, rs9380528, FKBP5UT5A, FKBP5UT5C, rs9380526, rs10947563, rs9380525, rs6912833, rs2143404, rs1360780, rs1591365, rs7748266, rs9470069, rs6926133, rs3777747, rs4713899, rs2395634, rs7753746, rs3800373, rs10807151, rs3800374, rs9348978, rs11751447 and, rs2395631.

10. The method of any one of claims 1 to 9, wherein the polymorphism is a SNP in a non-coding region of said gene or haplotype block.

11. The method of any one of claims 1 to 10, wherein the polymorphism is at least one SNP selected from the group consisting of rs2766534, rs4711429, rs4713921, rs9462104, rs9394312, rs4713916, rs943297, rs9380528, FKBP5UT5A, FKBP5UT5C, rs9380526, rs10947563, rs9380525, rs6912833, rs2143404, rs1360780, rs1591365, rs7748266, rs9470069, rs6926133, rs3777747, rs4713899, rs2395634, rs7753746,rs3800373 , rs10807151, rs3800374, rs9348978, rs11751447 and, rs2395631.

12. The method of any one of claims 1 to 11, wherein analyzing the nucleic acid comprises:
    (a) a primer extension assay;
    (b) a differential hybridization assay; and/or
    (c) an assay which detects allele-specific enzyme cleavage.

13. The method of any one of claims 1 to 12 further comprising, prior to analyzing, amplification of at least a portion of said gene or haplotype block.

14. The method of claim 13, wherein said amplification is effected by or said amplification is the polymerase chain reaction (PCR).

15. The method of claim 13 or 14, wherein said amplification reaction uses primers

which hybridize specifically with a portion of said gene or haplotype block.

16. The method of claim 15, wherein the primers to be used for said amplification reaction have the sequence as set forth in SEQ ID NOs: 21 and 22; 23 and 24; 25 and 26; 27 and 28; 29 and 30; 1 and 2; ; 31 and 32; 33 and 34; 35 and 36; 37 and 38; 39 and 40; 41 and 42; 43 and 44; 45 and 46; 47 and 48; 5 and 6; 49 and 50; 51 and 52; 53 and 54; 55 and 56; 57 and 58; 59 and 60; 61 and 62; 63 and 64; 7 and 8; 65 and 66; 67 and 68; 69 and 70; 71 and 72; or 73 and 74.

17. The method of any one of claims 12 to 16, wherein said primer extension assay uses a primer which hybridizes specifically with a portion of said gene or haplotype block which is adjacent to a polymorphism.

18. The method of claim 17, wherein the primer to be used for said primer extension assay has the sequence as set forth in SEQ ID NO: 75, 76, 77, 78, 79, 9, 80, 81, 82, 83, 84, 85, 86, 87, 88, 11, 89, 90, 91, 92, 93, 94, 95, 96, 12, 97, 98, 99, 100, or 101.

19. The method of any one of claims 12 to 16, wherein said differential hybridization assay or said assay detecting allele-specific enzyme cleavage uses probes which hybridize specifically with a portion of said gene or haplotype block which comprises a polymorphism.

20. The method of claim 19, wherein said probes have the sequence as set forth in SEQ ID NO: 102 and 103; 104 and 105; 106 and 107; 108 and 109; 110 and 111; 13 and 14; 112 and 113; 114 and 115; 116 and 117; 118 and 119; 120 and 121; 122 and 123; 124 and 125; 126 and 127; 128 and 129; 17 and 18; 130 and 131; 132 and 133; 134 and 135; 136 and 137; 138 and 139; 140 and 141; 142 and 143; 144 and 145; 19 and 20; 146 and 147; 148 and 149; 150 and 151; 152 and 153; or 154 and 155.

21. The method of any one of claims 1 to 7, wherein the expression level to be determined is the mRNA expression level.

22. The method of any one of claims 1 to 7, wherein the expression level to be determined is the protein expression level.

23. The method of any one of claims 2, 4 or 8 to 22, further comprising the step of treating said patient suffering from depression with an antidepressant.

24. A nucleic acid molecule comprising the sequence of SEQ ID NO: 116 or/and 118.

25. A pharmaceutical composition comprising
    (a) a nucleic acid encoding a polypeptide with the sequence of SwissProt accession number Q13451;
    (b) a nucleic acid hybridizing to the complementary strand of the nucleic acid of (a) and encoding a polypeptide having the biological activity of the polypeptide with the sequence of SwissProt accession number Q13451; and/or
    (c) a polypeptide encoded by the nucleic acid of (a) or (b).

26. Use of
    (a) a nucleic acid encoding a polypeptide with the sequence of SwissProt accession number Q13451;
    (b) a nucleic acid hybridizing to the complementary strand of the nucleic acid of (a) and encoding a polypeptide having the biological activity of the polypeptide with the sequence of SwissProt accession number Q13451;
    (c) a polypeptide encoded by the nucleic acid of (a) or (b);
    (d) an activator of the expression of the polypeptide with the sequence of SwissProt accession number Q13451; and/or
    (e) an activator of the polypeptide with the sequence of SwissProt accession number Q13451

    for the manufacture of a pharmaceutical composition for the treatment of depression.

27. A method of treating depression comprising the administration of

(a) a nucleic acid encoding a polypeptide with the sequence of SwissProt accession number Q13451;

(b) a nucleic acid hybridizing to the complementary strand of the nucleic acid of (a) and encoding a polypeptide having the biological activity of the polypeptide with the sequence of SwissProt accession number Q13451;

(c) a polypeptide encoded by the nucleic acid of (a) or (b);

(d) an activator of the expression of the polypeptide with the sequence of SwissProt accession number Q13451; and/or

(e) an activator of the polypeptide with the sequence of SwissProt accession number Q13451

to a patient suffering from depression.

28. Use of

(a) geldanamycin or a geldanamycin derivative that can disrupt and inhibit the association between FKBP52 and Hsp90; and/or

(b) an antibody or an aptamer specifically recognizing FKBP52 or a fragment or epitope thereof

for the manufacture of a pharmaceutical composition for the treatment of depression.

29. A method of treating depression comprising the administration of

(a) geldanamycin or a geldanamycin derivative that can disrupt and inhibit the association between FKBP52 and Hsp90; and/or

(b) an antibody or an aptamer specifically recognizing FKBP52 or a fragment or epitope thereof

to a patient suffering from depression.